(iv) separating the polysaccharide ether from at least one of the reaction product or the neutralized liquid:

The improvement which comprises:

(a) subjecting the neutralized liquid to a first separation at an alkaline pH to separate the salt from the organic solvent and the residue of the polysaccharide and provide a purified, neutralized liquid; and

(b) subjecting the purified, neutralized liquid to an electric current and suitable means effective to promote the conversion the salt to the acidic compound and the basic compound.

34. The process of claim 33 which provides an acid product stream comprising the acidic compound.

A1 cont.

35. The process of claim 33 which provides a base product stream comprising the basic compound.

36. The process of claim 33 further comprising utilizing at least a portion of the acid product stream in step (iii) of claim 1.

37. The process of claim 33 further comprising utilizing at least a portion of the base product stream in step (i) of claim 1.

38. The process of claim 33 wherein said subjecting of the purified, neutralized liquid with the electric current is conducted in the presence of a bipolar membrane effective to provide a source of hydrogen and hydroxyl ions.

39. The process of claim 33 wherein the first separation is conducted by electrodialysis with a semi-permeable membrane.

40. The process of claim 39 wherein the pH is effective to inhibit the deposition of the residue of the polysaccharide on the membrane.

41. The process of claim 40 wherein the pH is greater than about 10.

42. The process of claim 41 wherein the pH is from about 10.5 to 14.

43. The process of claim 33 wherein the electric current has a current density of from about 500 to 2000 amps per square meter.

A1 Cont

44. The process of claim 33 wherein the organic solvent is selected from the group consisting of acetone, ethanol, isopropyl alcohol, t-butyl alcohol, mono-, di-, and triethylene glycol and mixtures thereof.

45. The process of claim 33 wherein the basis compound is selected from the group consisting of sodium hydroxide, potassium hydroxide, calcium hydroxide, magnesium hydroxide, lithium hydroxide, ammonium hydroxide and mixtures thereof.

46. The process of claim 33 wherein the acidic compound is selected from the group consisting of acetic acid, nitric acid, hydrochloric acid, sulfuric acid, phosphoric acid and mixtures thereof.

47. The process of claim 33 wherein the polysaccharide is selected from the group consisting of cellulose, starch, pectin, chitosan,

chitin, agar, carrageenan, alginate, guar, arabic, tragacanth, xanthan gum and mixtures thereof.

48. The process of claim 33 wherein the derivatizing agent is an alkylene oxide selected from the group consisting of ethylene oxide, propylene oxide, butylene oxide and mixtures thereof.

49. The process of claim 33 which further comprises derivatizing the polysaccharide ether with at least one cationic, anionic or hydrohobic substituent.

A1 Cont

50. In a process for producing cellulose ethers comprising:

(i) treating cellulose with a basic compound to promote swelling of the cellulose;

(ii) reacting the cellulose with at least one derivatizing agent in a liquid medium comprising at least one organic solvent under conditions effective to promote a reaction between the cellulose and the derivatizing agent and form a reaction product comprising a cellulose ether, the basic compound and the organic solvent and a residue of the cellulose;

(iii) treating at least a portion of the reaction product comprising the basic compound with an acidic compound to provide a neutralized liquid comprising a salt of the acidic compound and the basic compound; and

(iv) separating the cellulose ether from at least one of the reaction product or the neutralized liquid:

The improvement which comprises:

(a) subjecting the neutralized liquid to a first separation by electrodialysis with a semi-permeable membrane at an alkaline pH to separate the salt from the organic solvent